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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,834	09/30/2003	Brian Scott Hallisey	200208211-1	2530

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EXAMINER	
THERIAULT, STEVEN B	
ART UNIT	**PAPER NUMBER**
2179	

NOTIFICATION DATE	DELIVERY MODE
07/23/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/673,834	HALLISEY ET AL.	
	Examiner	Art Unit	
	STEVEN B. THERIAULT	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the following communications: amendment filed 05/29/2008.

This action is made Final.

2. Claims 1 -35 are pending in the case.

Specification

3. In light of applicant's amendments to the claims the previous objection is now considered moot.

Claim Rejections - 35 USC § 103

4. **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 1 – 8, 11 – 23, 26 – 32, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benhase et al. (Pub No. 2004/0243616) in view of Therrien et al (hereinafter Therrien) U.S. Publication 2004/0093361 published May 13, 2004 and filed Sept. 10, 2003, in further view of Newman et al. (hereinafter Newman) U.S. Publication No. 20040205536 filed Sept. 10, 2001.**

As to **Independent claim 1**, Benhase et al, teaches:

A method of generating a graphical portion of a graphical user interface (GUI) (User interface – see e.g., Para [0006]), the graphical portion (interface display 400 – see e.g., Para. [0037]; i.e., the graphical portion 400 can be visually separated by the first display region 410 and second display region 420) concerning aspects of a storage domain (storage resources – see e.g., Para. [0036]), the method comprising: illustrating (interface display 400 – see e.g., Para. [0037]) A tree hierarchy (tree – see e.g., Para. [0037]) and a table portion as a tree-table view (See Para 005-006 and see e.g., Fig. 4 and Para. [0037], lines 5 – 6; i.e., second display region 420); including, on the tree hierarchy (tree – see e.g., Para. [0037]), a node (System A Root – see e.g., Fig. 3 – 8 and Para. [0037]) at a first level (root node – see e.g., Fig. 3 – 8 and Para. [0037]; i.e., the first level node corresponds to "System A Root" which is defined at the top of the hierarchy) corresponding to a set of at least two file systems (Server A and Server B – see e.g., Fig. 3 – 8 and Para. [0037]) that are members of the storage domain (storage resources – see e.g., Para. [0037]); including, on the tree hierarchy (tree – see e.g., Para. [0037]), nodes at a second level reporting to the first-level node (Server A and Server B – see e.g., Fig. 3 – 8 and Para. [0037]; i.e., "Server A" and "Server B" both report to the first level node

indicated as “System A Root”), each second-level node (Server A and Server B – see e.g., Fig. 3 – 8 and Para. [0037]) corresponding to a member of the set of files systems to which the first node corresponds (see e.g., Fig. 1 – 8 and Para. [0037]); including, on the tree hierarchy (tree – see e.g., Para. [0037]), nodes at a third level (logical subsystem LSS A, LSS B, and LSS C - see e.g., Fig. 1 – 8 and Para. [0037]), each third level node corresponding to a storage consumer (see e.g., Para. [0025] and Para. [0030]; i.e., as an example of storage consumers, users are able to set up storage resources such as LSS A, LSS B, and LSS C for copying data, wherein the action of copying corresponds to the consumption of storage) having allocated storage capacity (see e.g., Para. [0029], lines 23 – 28; i.e., LSS are a group of logical devices, such as units or sectors of a recording medium in a RAID array, that are divided into sectors of one or more disks for allocated storage capacity) on the storage domain (see e.g., Para. [0036]); and including, on the table portion (see e.g., Fig. 4; i.e., second display region 420), the allocated storage capacity used by the storage consumer (see e.g., Fig. 4 and Para.[0038], lines 11 – 13; sectors are set up for each storage resource, wherein each sector is allocated storage). Benhase also teaches that other storage systems may be represented on the display (See Para 0037) but does not expressly teach:

- Simultaneously displaying two different file systems included on the tree hierarchy

However, Therrien teaches a file storage system interface that displays storage capacities of several file systems simultaneously (See Para 0065 and 0066 and Figure 6 and 7). Noting that Therrien shows in the figures the acronyms for EAST and WEST, which are interpreted as two different storage grids with different IP addresses. Therrien shows the nodes in the tree, which clearly show two different site nodes with the second level nodes of repository and the third level nodes with the actual storage array name. Therrien are similar in that they both provide an interface to see storage allocations for the purposes of displaying to the system administrator the allocated storage across multiple machines in a central location, which makes management tasks easier.

Benhase and Therrien do not expressly teach a toggling between the tree-table view that shows the storage domain in the table that can be sorted based on attributes to which to column belongs. Benhase teaches a process of displaying the nodes of tree with a table in a view that clearly shows the storage domain. For example, Benhase shows in Fig. 2 server A with volumes 1-4 that are shown in the table. The tree-table is linked so that the nodes in the tree relate to the columns and rows displayed in the table. Therrien teaches displaying volume information from multiple file servers in an interface. Benhase in view of Therrien do not teach or suggest or teach a toggling of the tree table view. However, Newman teaches a system for displaying tree structures that departs from the standard hierarchical display of tree information. The purpose of Newman is to display model information in a different manner so that the information can fit within the display space. Newman teaches a control on the interface that allows the user, though a selection of a button or link, to toggle the focus of the view in the table (See Para 71-72). Newman teaches a control line that consists of a display mode a change selection. Newman teaches that there may be several display modes, alternative modes and modes that may be expressed differently, which suggests to the skilled artisan that the control line provides for a function that can allow for an alternative display mode where the tree-table can be toggled to just display the table without the tree. Newman also teaches a process of sorting a column in the table related to a particular attribute (See Para 94).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Benhase and Therrien in front of them, to modify the system of Benhase to display multiple file storage systems simultaneously and the teachings of Newman to toggle the table to show different view of information to the user. The motivation to combine Benhase and Therrien comes from the suggestion in Benhase that it is possible to have more then one storage system connected and from the teachings in Therrien that multiple file systems with the corresponding storage allocations can be displayed simultaneously for the purposes of saving money in providing a single application to display multiple storage systems information and to save time on the administrators part in not having to open several applications

to monitor several systems simultaneously (See Para 0026-0028). The motivation to combine Newman with Benhase and Therrien comes from the suggestion in Newman to **provide alternative commands based on the content** that are appropriate for the content and to allow for change selection of the mode to change the display (See Para 88). Moreover. Newman teaches the purpose of the invention is to exploit the tree structure to provide a guide to the reading and to provide it in auxiliary displays (See Para 19) and for visualizing any tree (See Para 69).

As to dependent claim 2, Benhase et al teaches:

The method of claim 1, wherein each second-level node being a parent to at least one of the third-level nodes (see e.g., Fig. 3 – 8 and Para. [0036] – [0037]; i.e., “LSS A”, “LSS B”, and “LSS C” all report to the second node “Server A”, wherein “Server A” node is collapsible and expandable to view related child nodes).

As to dependent claim 3, Benhase et al. teaches:

The method of claim 1, wherein each third-level node (logical subsystem LSS A, LSS B, and LSS C – see e.g., Fig. 1 – 8 and Para. [0037]) corresponds to one of an individual consumer or group of consumers (see e.g., Fig. 4, Para. [0029], lines 23 – 28 and Para. [0030]; i.e., LSS is considered an individual entity of a storage resource or a group of logical volumes within a logical device in a RAID array, wherein both are used to read or write data) using storage capacity on the storage domain (storage resources – see e.g., Para. [0036]).

As to dependent claim 4, Benhase et al. teaches:

The method of claim 1, further comprising: including, on the tree hierarchy (tree – see e.g., Para. [0037]), nodes at a fourth level (see e.g., Fig. 3 – 8 and Para. [0037], i.e., the nodes “Vol. 1” through “Vol. 4” are defined as the fourth level nodes); wherein each third-level node is a parent to at least one fourth-level node (see e.g., Fig. 3 – 8, i.e., ”LSS B” is a third level node that is a parent node to “Vol. 1” through “Vol. 4”); each third-level node corresponds to one of a set of instances of storage-consumers and a set of groups of storage-consumers (see e.g., Fig. 4 – 8, i.e., “Vol. 1” correspond to one instance of storage consumer, whereas “Vol. 1” through “Vol. 4”

corresponds to a group of storage consumers), each group corresponding to instances of storage consumers, respectively; and each fourth-level node correspond to a member of the set to which the parent third-level node corresponds (see e.g., Fig. 4 – 8).

As to dependent claim 5, Benhase et al. teaches:

The method of claim 4, wherein two or more fourth-level nodes (see e.g., Fig. 4 – 7, i.e., the two fourth level nodes corresponds to "Vol. 1" through "Vol. 4") correspond to the same entity (see e.g., Fig. 4 – 7 and Para. [0051], i.e., wherein "Vol. 1" listed under "Resource Identifier" column 432 and "1" listed under "Volume" column 466 correspond to the same entity) yet and report indirectly to two or more second-level nodes representing respective file systems (see e.g., Fig. 4 – 7, i.e., as illustrated in the respective figures, "Server A" and "Server B" are assigned as second level nodes as illustrated in the first display region 410. "Vol. 1" listed under column 432 which reports to second level "Server A", and "1" listed under column 466 correspond to a volume, which report to a different second level node, illustrated as "Server B" shown on "Resource Identifier" column 462).

As to dependent claim 6, Benhase et al. teaches:

The method of claim 1, wherein the storage domain (storage resources – see e.g., Para. [0036]) includes a network-attached storage (NAS) device (see e.g., Fig. 4 – 8 and Para. [0024]) on which the at-least-two different (see e.g., Para. 0024]; i.e., Server A and Server B are two different file systems, wherein server 100 could be mirrored to another server 110 that is at a remote site) file systems are mounted (Server A and Server B – see e.g., Fig. 3 – 8 and Para. [0037]).

As to dependent claim 7, Benhase et al. teaches:

The method of claim 1, further comprising: changing a number of rows in the table portion (see e.g., Fig. 4 and Para. [0038], lines 8 – 13; i.e., when LSS B 412 is selected in the first display region, resource identifiers are displayed in second display region 420, wherein if LSS C is selected after, resource identifiers of LSS C are displayed in the second display region 420, which changes the rows in the second display region since LSS B and LSS C have different

amounts of volumes) in response to expanding or collapsing the nodes at the second and third levels in order to show a row corresponding to each node currently displayed in the tree hierarchy (see e.g., Para. [0037], lines 21 – 26 and Para. [0038], lines 8 – 13; i.e., in order to view associated volumes within an LSS storage resource, the user must click on the desired LSS or SERVER, wherein clicking the desired LSS or SERVER is associated with expanding, collapsing, and displaying the storage resources in second display region 420).

As to **Independent claim 8**, Benhase et al. teaches:

A method of generating a graphical portion of a graphical user interface (GUI) (user interface – see e.g., Para [0006]), the method comprising: illustrating a tree-table view (See Para 005-006 and interface display 400 – see e.g., Fig. 3 – 8 and Para. [0037]) having a tree hierarchy (first display region 410 – see e.g., Fig. 3 – 8 and Para. [0037]) portion and a table portion (second display region 420 – see e.g., Fig. 3 – 8 and Para. [0037]); including, on the tree-hierarchy portion (tree – see e.g., Para. [0037]), nodes corresponding to storage consumers (see e.g., Fig. 4 – 8; i.e., storage consumers correspond to “Vol. 1” through “Vol. 4”) that are members having allocated storage capacity (see e.g., Fig. 4 and Para. [0029], lines 23 – 28; i.e., LSS are a group of logical devices, such as units or sectors of a recording medium in a RAID array, that are divided into sectors of one or more disks for allocated storage capacity) on a storage domain (storage resources – see e.g., Para. [0036]); and including, on the table-portion (second display region 420 – see e.g., Fig. 3 – 8), rows (rows – see e.g., Fig. 4 – 8 and Para. [0037]; i.e., rows are defined in the table portion of the GUI 420, which further corresponds to the tree hierarchy) and one or more columns (columns – see e.g., Fig. 4 – 8 and Para. [0037]), the one-or-more columns (number of columns – see e.g., Fig. 4 – 8 and Para. [0038]) each representing an attribute (see e.g., Fig. 4 – 8 and Para. [0038], i.e., the columns correspond to specific identifying attributes), respectively, regarding an allotment of storage space (size column 434 – see e.g., Fig. 4- 8 and Para. [0038]) to the respective storage consumers (see e.g., Fig. 4 – 8; i.e., storage consumers correspond to “Vol. 1” through “Vol. 4”), and each row (rows – see e.g., Fig. 4 – 8 and Para.

[0037]) being aligned with one of the nodes (see e.g., Fig. 4 – 8 i.e., the nodes of "Vol. 1" through "Vol. 4" are displayed under "Resource Identifier" column 432 of the second display region 420, in which each row is aligned with one of the nodes), respectively, and including cells corresponding to the one or more columns (see e.g., Fig. 4 – 8, wherein the intersection of a row and column corresponds to a cell of a specific column attribute). Benhase also teaches that other storage systems may be represented on the display (See Para 0037) but does not expressly teach:

- simultaneously displaying two different file systems included on the tree hierarchy and simultaneously displaying on the table portion an allotment of storage space for a storage consumer.

However, Therrien teaches a file storage system interface that displays storage capacities of several file systems simultaneously (See Para 0065 and 0066 and Figure 6 and 7). Noting that Therrien shows in the figures the acronyms for EAST and WEST, which are interpreted as two different storage grids with different IP addresses. Therrien shows the nodes in the tree, which clearly show two different site nodes with the second level nodes of repository and the third level nodes with the actual storage array name (Se figure 6, left). Therrien also shows the capacity in the table for each node and the storage consumed for each repository simultaneously (See Figure 7, right, note the columns labeled capacity consumed and total GB and Para 0063). Therrien are similar in that they both provide an interface to see storage allocations for the purposes of displaying to the system administrator the allocated storage across multiple machines in a central location, which makes management tasks easier.

Benhase and Therrien do not expressly teach a toggling between the tree-table view that shows the storage domain in the table that can be sorted based on attributes to which to column belongs. Benhase teaches a process of displaying the nodes of tree with a table in a view that clearly shows the storage domain. For example, Benhase shows in Fig. 2 server A with volumes 1-4 that are shown in the table. The tree-table is linked so that the nodes in the tree relate to the columns and rows displayed in the table. Therrien teaches displaying volume information from

multiple file servers in an interface. Benhase in view of Therrien do not teach or suggest or teach a toggling of the tree table view. However, Newman teaches a system for displaying tree structures that departs from the standard hierarchical display of tree information. The purpose of Newman is to display model information in a different manner so that the information can fit within the display space. Newman teaches a control on the interface that allows the user, though a selection of a button or link, to toggle the focus of the view in the table (See Para 71-72). Newman teaches a control line that consists of a display mode a change selection. Newman teaches that there may be several display modes, alternative modes and modes that may be expressed differently, which suggests to the skilled artisan that the control line provides for a function that can allow for an alternative display mode where the tree-table can be toggled to just display the table without the tree. Newman also teaches a process of sorting a column in the table related to a particular attribute (See Para 94).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Benhase and Therrien in front of them, to modify the system of Benhase to display multiple file storage systems simultaneously and the teachings of Newman to toggle the table to show different view of information to the user. The motivation to combine Benhase and Therrien comes from the suggestion in Benhase that it is possible to have more then one storage system connected and from the teachings in Therrien that multiple file systems with the corresponding storage allocations can be displayed simultaneously for the purposes of saving money in providing a single application to display multiple storage systems information and to save time on the administrators part in not having to open several applications to monitor several systems simultaneously (See Para 0026-0028). The motivation to combine Newman with Benhase and Therrien comes from the suggestion in Newman to **provide alternative commands based on the content** that are appropriate for the content and to allow for change selection of the mode to change the display (See Para 88). Moreover. Newman teaches the purpose of the invention is to exploit the tree structure to provide a guide to the reading and to provide it in auxiliary displays (See Para 19) and for visualizing any tree (See Para

69).

As to dependent claim 11, Benhase et al. teaches wherein the table view and the sortable table are synchronized with respect to each other (See column 432 in figure 4 and 5). Benhase shows the tables are in sync with the view. See the volumes 1-4 are sorted in reverse order in the view displaying the information for Server A, LSS B. Notice the volumes in figure 4 are shown in numerical order from the top down. However, in figure 5, the tree is displayed in reverse order and so is the table, which teaches synchronization from the view to the table.

As to dependent claim 12, Benhase et al. teaches:

The method of claim 11, wherein the sortable table (second display region 420 – see e.g., Fig. 4 – 5, i.e., wherein the table residing in the second display region 420 is sortable) includes all of the rows (see e.g., Fig. 4 – 5, i.e., Fig. 5 shows the sorted display of Fig. 4, wherein all the rows in Fig. 4 are still present in the sorted table of Fig. 5) and the one-or-more columns of the table-portion (see e.g., Fig. 4 – 5, i.e., the columns present in Fig. 4's table are still present in Fig. 5's sorted table).

As to dependent claim 13, as indicated in the above discussion, Benhase in view of Therrien in further view of Newman teach every limitation of claim 1.

Benhase in view of Therrien do not expressly teach a method for selecting an icon on the GUI to toggle between the tree-table view and the sortable table.

Benhase teaches a process of displaying the nodes of tree with a table in a view that clearly shows the storage domain. For example, Benhase shows in Fig. 2 server A with volumes 1-4 that are shown in the table. The tree-table is linked so that the nodes in the tree relate to the columns and rows displayed in the table. Therrien teaches displaying volume information from multiple file servers in an interface. Benhase in view of Therrien do not teach or suggest or teach a toggling of the tree table view. However, Newman teaches a system for displaying tree structures that departs from the standard hierarchical display of tree information. The purpose of Newman is to display model information in a different manner so that the information can fit within

the display space. Newman teaches a control on the interface that allows the user, though a selection of a button or link, to toggle the focus of the view in the table (See Para 71-72). Newman teaches a control line that consists of a display mode a change selection. Newman teaches that there may be several display modes, alternative modes and modes that may be expressed differently, which suggests to the skilled artisan that the control line provides for a function that can allow for an alternative display mode where the tree-table can be toggled to just display the table without the tree. Newman also teaches a process of sorting a column in the table related to a particular attribute (See Para 94).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Benhase and Therrien in front of them, to modify the system of Benhase to display multiple file storage systems simultaneously and the teachings of Newman to toggle the table to show different view of information to the user. The motivation to combine Benhase and Therrien comes from the suggestion in Benhase that it is possible to have more then one storage system connected and from the teachings in Therrien that multiple file systems with the corresponding storage allocations can be displayed simultaneously for the purposes of saving money in providing a single application to display multiple storage systems information and to save time on the administrators part in not having to open several applications to monitor several systems simultaneously (See Para 0026-0028). The motivation to combine Newman with Benhase and Therrien comes from the suggestion in Newman to **provide alternative commands based on the content** that are appropriate for the content and to allow for change selection of the mode to change the display (See Para 88). Moreover, Newman teaches the purpose of the invention is to exploit the tree structure to provide a guide to the reading and to provide it in auxiliary displays (See Para 19) and for visualizing any tree (See Para 69).

As to dependent claim 14, Benhase et al. teaches:

The method of claim 8, further comprising: changing a number of rows in the table portion (see e.g., Fig. 4 and Para. [0038], lines 8 – 13; i.e., when LSS B 412 is selected in the first display region, resource identifiers are displayed in second display region 420, wherein if LSS C is selected after, resource identifiers of LSS C are displayed in the second display region 420, which changes the rows in the second display region since LSS B and LSS C have different amounts of volumes) in response to expanding or collapsing the nodes corresponding to the storage consumers in order to show a row corresponding to each node currently displayed in the tree hierarchy (see e.g., Para. [0037], lines 21 – 26 and Para. [0038], lines 8 – 13; i.e., in order to view associated volumes within an LSS storage resource, the user must click on the desired LSS or SERVER, wherein clicking the desired LSS or SERVER is associated with expanding, collapsing, and displaying the storage resources in second display region 420).

As to **Independent claim 15**, Benhase et al. teaches:

A method of generating a graphical portion of a graphical user interface (GUI) (user interface – see e.g., Para [0006]), the method comprising: illustrating a tree-table (interface display 400 – see e.g., Fig. 3 – 8 and Para. [0037]) having a tree hierarchy portion (first display region 410 – see e.g., Fig. 3 – 8 and Para. [0037]) and a table portion (second display region 420 – see e.g., Fig. 3 – 8 and Para. [0037]); including, on the tree-hierarchy portion (first display region 410 – see e.g., Fig. 3 – 8 and Para. [0037]), a node at a first level corresponding to one file system (Server A and Server B – see e.g., Fig. 3 – 8 and Para. [0037]) in a storage domain (storage resources – see e.g., Para. [0036]); including, at a second level on the tree-hierarchy portion (see e.g., Fig. 3 – 8), at least one of a node belonging to a first node-category (“System A Root” – see e.g., Fig. 4 – 8) corresponding to a set of instances of storage-consumers (see e.g., Fig. 4 – 8, i.e., Server A and Sever B are instances of storage consumers) that are allocated storage space on the storage domain (see e.g., Para. [0029], lines 23 – 28; i.e., LSS are a group of logical devices, such as units or sectors of a recording medium in a RAID array, that are divided into sectors of one or more disks for allocated storage capacity), and a node belonging to a second node-category

(Server A and Server B – see e.g., Fig. 4 – 8) corresponding to a set of groups of storage-consumers ("LSS a", "LSS B" and "LSS C" – see e.g., Fig. 4 – 8) that are allocated storage space on the storage domain (see e.g., Para. [0029], lines 23 – 28; i.e., LSS are a group of logical devices, such as units or sectors of a recording medium in a RAID array, that are divided into sectors of one or more disks for allocated storage capacity), each second-level node reporting to the first-level node (see e.g., Fig. 4 – 8); and including, on the table-portion, rows and one or more columns, the one-or-more columns (number of columns – see e.g., Fig. 4 – 8 and Para. [0038]) each representing an attribute (see e.g., Fig. 4 – 8 and Para. [0038], i.e., the columns correspond to specific identifying attributes), respectively, regarding an allotment of storage space (size column 434 – see e.g., Fig. 4- 8 and Para. [0038]) to the respective storage consumers (see e.g., Fig. 4 – 8; i.e., storage consumers correspond to "Vol. 1" through "Vol. 4"), and the rows (rows – see e.g., Fig. 4 – 8 and Para. [0037]; i.e., rows are defined in the table portion of the GUI 420, which further corresponds to the tree hierarchy) being aligned (see e.g., Fig 4 – 8, i.e., node System A Root node is aligned with respect to row 450 and Server A/Sever B node is aligned with respect to row and column 462) with the first-category (System A Root – see e.g., Fig. 4 – 8) and second-category (Server A and Server B – see e.g., Fig. 4 – 8) nodes, respectively, and including cells corresponding to the one or more columns (see e.g., Fig. 4 – 8, wherein the intersection of a row and column corresponds to a cell of a specific column attribute). Benhase also teaches that other storage systems may be represented on the display (See Para 0037) but does not expressly teach:

- simultaneously displaying two different file systems included on the tree hierarchy and simultaneously displaying on the table portion an allotment of storage space for a storage consumer for the two different systems.

However, Therrien teaches a file storage system interface that displays storage capacities of several file systems simultaneously (See Para 0065 and 0066 and Figure 6 and 7). Noting that Therrien shows in the figures the acronyms for EAST and WEST, which are interpreted as two

different storage grids with different IP addresses. Therrien shows the nodes in the tree, which clearly show two different site nodes with the second level nodes of repository and the third level nodes with the actual storage array name (Se figure 6, left). Therrien also shows the capacity in the table for each node and the storage consumed for each repository simultaneously (See Figure 7, right, note the columns labeled capacity consumed and total GB and Para 0063). Therrien are similar in that they both provide an interface to see storage allocations for the purposes of displaying to the system administrator the allocated storage across multiple machines in a central location, which makes management tasks easier.

Benhase and Therrien do not expressly teach a toggling between the tree-table view that shows the storage domain in the table that can be sorted based on attributes to which to column belongs. Benhase teaches a process of displaying the nodes of tree with a table in a view that clearly shows the storage domain. For example, Benhase shows in Fig. 2 server A with volumes 1-4 that are shown in the table. The tree-table is linked so that the nodes in the tree relate to the columns and rows displayed in the table. Therrien teaches displaying volume information from multiple file servers in an interface. Benhase in view of Therrien do not teach or suggest or teach a toggling of the tree table view. However, Newman teaches a system for displaying tree structures that departs from the standard hierarchical display of tree information. The purpose of Newman is to display model information in a different manner so that the information can fit within the display space. Newman teaches a control on the interface that allows the user, though a selection of a button or link, to toggle the focus of the view in the table (See Para 71-72). Newman teaches a control line that consists of a display mode a change selection. Newman teaches that there may be several display modes, alternative modes and modes that may be expressed differently, which suggests to the skilled artisan that the control line provides for a function that can allow for an alternative display mode where the tree-table can be toggled to just display the table without the tree. Newman also teaches a process of sorting a column in the table related to a particular attribute (See Para 94).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of

the invention, having the teachings of Benhase and Therrien in front of them, to modify the system of Benhase to display multiple file storage systems simultaneously and the teachings of Newman to toggle the table to show different view of information to the user. The motivation to combine Benhase and Therrien comes from the suggestion in Benhase that it is possible to have more then one storage system connected and from the teachings in Therrien that multiple file systems with the corresponding storage allocations can be displayed simultaneously for the purposes of saving money in providing a single application to display multiple storage systems information and to save time on the administrators part in not having to open several applications to monitor several systems simultaneously (See Para 0026-0028). The motivation to combine Newman with Benhase and Therrien comes from the suggestion in Newman to **provide alternative commands based on the content** that are appropriate for the content and to allow for change selection of the mode to change the display (See Para 88). Moreover. Newman teaches the purpose of the invention is to exploit the tree structure to provide a guide to the reading and to provide it in auxiliary displays (See Para 19) and for visualizing any tree (See Para 69).

As to dependent claim 16, Benhase et al. teaches:

The method of claim 15, further comprising: including, on the tree-hierarchy portion (tree – see e.g., Para. [0036]), nodes at a third level (see e.g., Fig. 4 – 8, i.e., “LSS A”, “LSS B” and “LSS C” are nodes at a third level) that report to the first-category (System A Root – see e.g., Fig. 4 – 8) and second-category nodes (Server A and Server B – see e.g., Fig. 4 – 8) respectively, each third-level node corresponding to a member of the set to which the parent first-category or second-category node corresponds (see e.g., Fig. 4 – 8, i.e., “LSS A”, “LSS B” and “LSS C” are nodes at a third level which report to “Server A” and “Server B” at the second level, which report to the parent node of all nodes, “System A Root”), respectively; and including, on the table-portion (second display region 420 – see e.g., Fig. 4 – 8), rows that align with the third-level nodes (see e.g., Fig. 4 – 8, i.e., wherein third level node “LSS B” is aligned with row 454),

respectively, and include cells corresponding to the one or more columns (number of columns – see e.g., Fig. 4 – 8 and Para. [0038]).

As to claims 17, as indicated in the above discussion, Benhase in view of Therrien teaches every element of claim 16.

Benhase does not expressly teach where the tree hierarchy portion of at least two first level nodes corresponding to at least two file systems in the storage domain and including a node at the zeroith level representing all instances of the file system in the domain where the zeroith node is parent to the first level nodes. However, this limitation would have been obvious to one of ordinary skill in the art at the time of the invention, in view of Therrien, because Therrien expressly teaches a zerotih node "Boston" that represents all storage systems on the grid. The first level nodes of SITEGRID East and West have it as a parent. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Benhase and Therrien in front of them, to modify the system of Benhase to display multiple file storage systems simultaneously. The motivation to combine Benhase and Therrien comes from the suggestion in Benhase that it is possible to have more then one storage system connected and from the teachings in Therrien that multiple file systems with the corresponding storage allocations can be displayed simultaneously for the purposes of saving money in providing a single application to display multiple storage systems information and to save time on the administrators part in not having to open several applications to monitor several systems simultaneously (See Para 0026-0028).

As to **claim 18**, Benhase et al. teaches wherein the table view and the sortable table are synchronized with respect to each other (See column 432 in figure 4 and 5). Benhase shows the tables are in sync with the view. See the volumes 1-4 are sorted in reverse order in the view displaying the information for Server A, LSS B. Notice the volumes in figure 4 are shown in numerical order from the top down. However, in figure 5, the tree is displayed in reverse order and so is the table, which teaches synchronization from the view to the table. Neither Benhase

nor Therrien teach that a highlighted item remains highlighted in the both the tree table and the sorted table. However, this limitation would have been obvious to one of ordinary skill in the art at the time of the invention, in view of Newman, because Newman specifically teaches applying a highlighting of a column that keeps the column in focus when the user toggles or change the controls on the control line (See Para 31, 76). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Benhase and Therrien in front of them, to modify the system of Benhase to display multiple file storage systems simultaneously and the teachings of Newman to toggle the table to show different view of information to the user. The motivation to combine Benhase and Therrien comes from the suggestion in Benhase that it is possible to have more then one storage system connected and from the teachings in Therrien that multiple file systems with the corresponding storage allocations can be displayed simultaneously for the purposes of saving money in providing a single application to display multiple storage systems information and to save time on the administrators part in not having to open several applications to monitor several systems simultaneously (See Para 0026-0028). The motivation to combine Newman with Benhase and Therrien comes from the suggestion in Newman to present the content in a focuses manner (See Para 76).

As to claims 19-22, claims 19-22 represent the machine readable medium comprising computer readable instructions for performing the method steps of claims 1, 2, 6, and 7 respectively, and are rejected along the same rationale.

As to claims 23, 26-28, claims 23, 26-28 represent the machine readable medium comprising computer readable instructions for performing the method steps of claims 8, 11, 13, and 14 respectively, and are rejected along the same rationale.

As to **Independent claim 29**, Benhase et al. teaches:

An apparatus for managing aspects of a storage domain (storage resources – see e.g., Para. [0025]), the apparatus comprising: a host operatively connected to components of the storage domain (see e.g., Fig. 1); and manager means for running on the host (elements 120 and 130 – see e.g., Fig. 1 and Para. [0024]) and for managing aspects of the storage domain (storage resources – see e.g., Para. [0025]) in part by producing a graphical user interface (GUI) (interface 150 – Para. [0025]); and generation means for generating a graphical portion of the GUI (see e.g., Para. [0005] and [0025], i.e., the user interface provides the generation of a tree hierarchy and corresponding tree table by running a software), the generation means being operable to portray, in the graphical portion (interface display 400 – see e.g., Fig. 4 – 8), a tree hierarchy (tree – see e.g., Para. [0036]) and a table portion (see e.g., Fig. 4 and Para. [0037], lines 5 – 6; i.e., second display region 420), portray, on the tree hierarchy, a node at a first level (System A Root – see e.g., Fig. 4 – 8) corresponding to a set of at least two file systems (Sever A and Server B – see e.g., Fig. 4 – 8) that are members of the storage domain (storage resources – see e.g., Para. [0024]), portray, on the tree hierarchy, nodes at a second level reporting to the first-level node, each second-level node corresponding to a member of the set of files systems to which the first node corresponds (see e.g., Fig. 4 – 8, i.e., “Server A” and “Server B” reports to “System A Root”), portray, on the tree hierarchy (tree – see e.g., Para. [0037]), nodes at a third level (logical subsystem LSS A, LSS B, and LSS C - see e.g., Fig. 1 – 8 and Para. [0037]), each third-level node corresponding to a storage consumer (see e.g., Para. [0025] and Para. [0030]; i.e., as an example of storage consumers, users are able to set up storage resources such as LSS A, LSS B, and LSS C for copying data, wherein the action of copying corresponds to the consumption of storage) having allocated storage capacity (see e.g., Para. [0029], lines 23 – 28; i.e., LSS are a group of logical devices, such as units or sectors of a recording medium in a RAID array, that are divided into sectors of one or more disks for allocated storage capacity) on the storage domain (see e.g., Para. [0036]), and portray, on the table portion (see e.g., Fig. 4; i.e., second display region 420), the allocated storage capacity used by the storage consumer (see e.g., Fig. 4 and Para. [0038], lines 11 – 13; sectors are set up for each storage resource, wherein each sector is

allocated storage). Benhase also teaches that other storage systems may be represented on the display (See Para 0037) but does not expressly teach:

- simultaneously displaying two different file systems included on the tree hierarchy

However, Therrien teaches a file storage system interface that displays storage capacities of several file systems simultaneously (See Para 0065 and 0066 and Figure 6 and 7). Noting that Therrien shows in the figures the acronyms for EAST and WEST, which are interpreted as two different storage grids with different IP addresses. Therrien shows the nodes in the tree, which clearly show two different site nodes with the second level nodes of repository and the third level nodes with the actual storage array name. Therrien are similar in that they both provide an interface to see storage allocations for the purposes of displaying to the system administrator the allocated storage across multiple machines in a central location, which makes management tasks easier.

Benhase and Therrien do not expressly teach a toggling between the tree-table view that shows the storage domain in the table that can be sorted based on attributes to which to column belongs. Benhase teaches a process of displaying the nodes of tree with a table in a view that clearly shows the storage domain. For example, Benhase shows in Fig. 2 server A with volumes 1-4 that are shown in the table. The tree-table is linked so that the nodes in the tree relate to the columns and rows displayed in the table. Therrien teaches displaying volume information from multiple file servers in an interface. Benhase in view of Therrien do not teach or suggest or teach a toggling of the tree table view. However, Newman teaches a system for displaying tree structures that departs from the standard hierarchical display of tree information. The purpose of Newman is to display model information in a different manner so that the information can fit within the display space. Newman teaches a control on the interface that allows the user, though a selection of a button or link, to toggle the focus of the view in the table (See Para 71-72). Newman teaches a control line that consists of a display mode a change selection. Newman teaches that there may be several display modes, alternative modes and modes that may be

expressed differently, which suggests to the skilled artisan that the control line provides for a function that can allow for an alternative display mode where the tree-table can be toggled to just display the table without the tree. Newman also teaches a process of sorting a column in the table related to a particular attribute (See Para 94).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Benhase and Therrien in front of them, to modify the system of Benhase to display multiple file storage systems simultaneously and the teachings of Newman to toggle the table to show different view of information to the user. The motivation to combine Benhase and Therrien comes from the suggestion in Benhase that it is possible to have more then one storage system connected and from the teachings in Therrien that multiple file systems with the corresponding storage allocations can be displayed simultaneously for the purposes of saving money in providing a single application to display multiple storage systems information and to save time on the administrators part in not having to open several applications to monitor several systems simultaneously (See Para 0026-0028). The motivation to combine Newman with Benhase and Therrien comes from the suggestion in Newman to **provide alternative commands based on the content** that are appropriate for the content and to allow for change selection of the mode to change the display (See Para 88). Moreover. Newman teaches the purpose of the invention is to exploit the tree structure to provide a guide to the reading and to provide it in auxiliary displays (See Para 19) and for visualizing any tree (See Para 69).

As to dependent claim 30, Benhase et al. teaches:

The apparatus of claim 29, wherein each second-level node being a parent to at least one of the third-level nodes (see e.g., Fig. 3 – 8 and Para. [0036] – [0037]; i.e., “LSS A”, “LSS B”, and “LSS C” all report to the second node “Server A”, wherein “Server A” node is collapsible and expandable to view related child nodes).

As to dependent claim 31, Benhase et al. teaches:

The apparatus of claim 29, wherein the generation means is further operable to change a number of rows in the table portion (see e.g., Fig. 4 and Para. [0038], lines 8 – 13; i.e., when LSS B 412 is selected in the first display region, resource identifiers are displayed in second display region 420, wherein if LSS C is selected after, resource identifiers of LSS C are displayed in the second display region 420, which changes the rows in the second display region since LSS B and LSS C have different amounts of volumes) in response to expanding or collapsing the nodes at the second and third levels in order to show a row corresponding to each node currently displayed in the tree hierarchy (see e.g., Para. [0037], lines 21 – 26 and Para. [0038], lines 8 – 13; i.e., in order to view associated volumes within an LSS storage resource, the user must click on the desired LSS or SERVER, wherein clicking the desired LSS or SERVER is associated with expanding, collapsing, and displaying the storage resources in second display region 420).

As to independent claim 32, Benhase et al. teaches:

An apparatus for managing aspects of a storage domain (storage resources – see e.g., Para. [0025]), the apparatus comprising: a host operatively connected to components of the storage domain (see e.g., Fig. 1); and manager means for running on the host (elements 120 and 130 – see e.g., Fig. 1 and Para. [0024]) and for managing aspects of the storage domain (storage resources – see e.g., Para. [0025]) in part by producing a graphical user interface (GUI) (interface 150 – Para. [0025]); and generation means for generating a graphical portion of the GUI (see e.g., Para. [0005] and [0025], i.e., the user interface provides the generation of a tree hierarchy and corresponding tree table by running a software), the generation means being operable to portray, in the graphical portion (interface display 400 – see e.g., Fig. 4 – 8), a tree-table (interface display 400 – see e.g., Fig. 4 – 8) having a tree hierarchy portion (tree – see e.g., Para. [0036]) and a table portion (second display region 420 – see e.g., Fig. 4 – 8), portray, on the tree-hierarchy portion (tree – see e.g., Para. [0036]), nodes corresponding to storage consumers (see e.g., Fig. 4 – 8; i.e., storage consumers correspond to “Vol. 1” through “Vol. 4”) that are members having allocated storage capacity (see e.g., Fig. 4 and Para. [0029], lines 23 – 28; i.e., LSS are a group of logical devices, such as units or sectors of a recording medium in a RAID array, that are

divided into sectors of one or more disks for allocated storage capacity) on a storage domain (storage resources – see e.g., Para. [0024]), and portray, on the table-portion (second display region 420 – see e.g., Fig. 4 – 8), rows (rows – see e.g., Fig. 4 – 8 and Para. [0037]; i.e., rows are defined in the table portion of the GUI 420, which further corresponds to the tree hierarchy) and one or more columns (columns – see e.g., Fig. 4 – 8 and Para. [0037]), the one-or-more columns each representing an attribute (see e.g., Fig. 4 – 8 and Para. [0038], i.e., the columns correspond to specific identifying attributes), respectively, regarding an allotment of storage space to the respective storage consumers (size column 434 – see e.g., Fig. 4- 8 and Para. [0038]), and each row being aligned with one of the nodes (see e.g., Fig. 4 – 8 i.e., the nodes of "Vol. 1" through "Vol. 4" are displayed under "Resource Identifier" column 432 of the second display region 420, in which each row is aligned with one of the nodes), respectively, and including cells corresponding to the one or more columns (see e.g., Fig. 4 – 8, wherein the intersection of a row and column corresponds to a cell of a specific column attribute). Benhase also teaches that other storage systems may be represented on the display (See Para 0037) but does not expressly teach:

- simultaneously displaying two different file systems included on the tree hierarchy and simultaneously displaying on the table portion an allotment of storage space for a storage consumer for the two different systems.

However, Therrien teaches a file storage system interface that displays storage capacities of several file systems simultaneously (See Para 0065 and 0066 and Figure 6 and 7). Noting that Therrien shows in the figures the acronyms for EAST and WEST, which are interpreted as two different storage grids with different IP addresses. Therrien shows the nodes in the tree, which clearly show two different site nodes with the second level nodes of repository and the third level nodes with the actual storage array name (Se figure 6, left). Therrien also shows the capacity in the table for each node and the storage consumed for each repository simultaneously (See Figure 7, right, note the columns labeled capacity consumed and total GB and Para 0063). Therrien are similar in that they both provide an interface to see storage allocations for the

purposes of displaying to the system administrator the allocated storage across multiple machines in a central location, which makes management tasks easier.

Benhase and Therrien do not expressly teach a toggling between the tree-table view that shows the storage domain in the table that can be sorted based on attributes to which to column belongs. Benhase teaches a process of displaying the nodes of tree with a table in a view that clearly shows the storage domain. For example, Benhase shows in Fig. 2 server A with volumes 1-4 that are shown in the table. The tree-table is linked so that the nodes in the tree relate to the columns and rows displayed in the table. Therrien teaches displaying volume information from multiple file servers in an interface. Benhase in view of Therrien do not teach or suggest or teach a toggling of the tree table view. However, Newman teaches a system for displaying tree structures that departs from the standard hierarchical display of tree information. The purpose of Newman is to display model information in a different manner so that the information can fit within the display space. Newman teaches a control on the interface that allows the user, though a selection of a button or link, to toggle the focus of the view in the table (See Para 71-72). Newman teaches a control line that consists of a display mode a change selection. Newman teaches that there may be several display modes, alternative modes and modes that may be expressed differently, which suggests to the skilled artisan that the control line provides for a function that can allow for an alternative display mode where the tree-table can be toggled to just display the table without the tree. Newman also teaches a process of sorting a column in the table related to a particular attribute (See Para 94).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Benhase and Therrien in front of them, to modify the system of Benhase to display multiple file storage systems simultaneously and the teachings of Newman to toggle the table to show different view of information to the user. The motivation to combine Benhase and Therrien comes from the suggestion in Benhase that it is possible to have more then one storage system connected and from the teachings in Therrien that multiple file systems with the corresponding storage allocations can be displayed simultaneously for the

purposes of saving money in providing a single application to display multiple storage systems information and to save time on the administrators part in not having to open several applications to monitor several systems simultaneously (See Para 0026-0028). The motivation to combine Newman with Benhase and Therrien comes from the suggestion in Newman to **provide alternative commands based on the content** that are appropriate for the content and to allow for change selection of the mode to change the display (See Para 88). Moreover. Newman teaches the purpose of the invention is to exploit the tree structure to provide a guide to the reading and to provide it in auxiliary displays (See Para 19) and for visualizing any tree (See Para 69).

As to dependent claim 35, Benhase et al. teaches:

Benhase et al. teaches wherein the table view and the sortable table are synchronized with respect to each other (See column 432 in figure 4 and 5). Benhase shows the tables are in sync with the view. See the volumes 1-4 are sorted in reverse order in the view displaying the information for Server A, LSS B. Notice the volumes in figure 4 are shown in numerical order from the top down. However, in figure 5, the tree is displayed in reverse order and so is the table, which teaches synchronization from the view to the table.

6. **Claims 9, 24, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benhase et al. (Pub No. 2004/0243616) in view of Therrien et al (hereinafter Therrien) U.S. Publication 2004/0093361 published May 13, 2004 and filed Sept. 10, 2003, in further view of Newman et al. (hereinafter Newman) U.S. Publication No. 20040205536 filed Sept. 10, 2001, in further view of Byrnes et al. (Patent No. 6,832,248).**

As to dependent claim 9, Benhase et al. teaches a graphical user interface (GUI) (user interface – see e.g., Para [0006]) illustrating a tree table (interface display 400 – see e.g., Fig. 3 – 8 and Para. [0037]) having a tree hierarchy portion (first display region 410 – see e.g., Fig. 3 – 8 and Para. [0037]) and a table portion (second display region 420 – see e.g., Fig. 3 – 8 and Para.

[0037]), which includes nodes corresponding to storage consumers (see e.g., Fig. 4 – 8; i.e., storage consumers correspond to "Vol. 1" through "Vol. 4") that are members of a storage domain (storage resources – see e.g., Para. [0036]) of the tree hierarchy. Additionally, Benhase et al. teaches including on the table portion, rows and one or more columns (see e.g., Fig. 4 – 8), wherein the one or more columns represent an attribute (see e.g., Fig. 4 – 8 and Para. [0038], i.e., the columns correspond to specific identifying attributes) regarding allotment of storage space (size column 434 – see e.g., Fig. 4- 8 and Para. [0038]) and consumption attributes (see e.g., Fig. 4 – 8). Therrien teaches the display of consumption for file storage system on different file systems (See Therrien Figure 6 and 7 and Para 0065-0066). Furthermore, Benhase in view of Therrien in further view of Newman et al. teaches the alignment of nodes and rows (see e.g., Fig. (4 – 8), which includes cells corresponding to one or more columns (see e.g., Fig. 4 – 8) but does not teach a soft and hard limit on storage spaces. Byrnes et al. teaches, a quota limit that can correspond to a soft and hard limit, in which the hard limit cannot be exceeded under any circumstances, and the soft limit can be exceeded for a predefined period of time (see e.g., column 9, lines 11 – 59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the graphical user interface and attributes of Benhase et al. with the soft and hard limit attributes of Byrnes et al. because a warning message can indicate to the user that he/she has exceeded the soft limit and is allowed a grace period for a predefined period of time (see e.g., column 9, lines 11 – 59). The motivation to combine Byrnes with Therrien, Benhase and Newman comes from the suggestion in Byrnes that quota information is generated and placed in a table for the user when the file system exceeds a certain value (See column, lines 10-30) for the purposes of displaying the file system parameters to the user.

As to dependent claim 24, claim 24 reflects the computer readable medium comprising the computer readable instructions for performing the method steps of claim 9, and is rejected along the same rationale.

As to dependent claim 33, claim 33reflects the apparatus comprising the computer readable instructions for performing the method steps of claim 9, and is rejected along the same rationale.

7. **Claims 10, 25, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benhase et al. (Pub No. 2004/0243616) in view of Therrien et al (hereinafter Therrien) U.S. Publication 2004/0093361 published May 13, 2004 and filed Sept. 10, 2003, in further view of Newman et al. (hereinafter Newman) U.S. Publication No. 20040205536 filed Sept. 10, 2001, in further view of Byrnes et al. (Patent No. 6,832,248), and further in view of Kuchinsky et al. (Pub No. 2005/0039123).**

As to dependent claim 10, this claim is analyzed as previously discussed with respect to the above discussion. Benhase et al. teaches a graphical user interface (GUI) (user interface – see e.g., Para [0006]) illustrating a tree table (interface display 400 – see e.g., Fig. 3 – 8 and Para. [0037]) having a tree hierarchy portion (first display region 410 – see e.g., Fig. 3 – 8 and Para. [0037]) and a table portion (second display region 420 – see e.g., Fig. 3 – 8 and Para. [0037]). Additionally, Benhase et al. teaches including on the table portion, rows and one or more columns (see e.g., Fig. 4 – 8), wherein the one or more columns represent an attribute (see e.g., Fig. 4 – 8 and Para. [0038], i.e., the columns correspond to specific identifying attributes) regarding allotment of storage space (size column 434 – see e.g., Fig. 4- 8 and Para. [0038]) and consumption attributes (see e.g., Fig. 4 – 8). Therrien also teaches displaying consumption for a given node (See Figure 6 and 7 and Para 0065-0066). Newman teaches displaying column and rows of table information in a display view (See figure 10). Byrnes et al. teaches a quota limit that corresponds to a soft and hard limit, in which the hard limit cannot be exceeded under any circumstances, wherein the soft limit is able to be exceeded for a predefined period of time (see e.g., column 9, lines 11 – 59). Benhase in view of Therrien and in further view of Byrnes teach their respective limitations but do not teach the first attribute being a soft limit. Kuchinsky et al. teaches the capability of rearranging rows and columns within a table (see e.g., Para. [0144]). Benhase, Therrien and Byrnes all teach displaying data within tables that relates to storage allocations on an interface for the purposes of helping the user understand the physical allocations of storage on the network. Each displays different attributes of the storage but

nonetheless contain the structure to display other types of information by adding columns or rows to a table. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the graphical user interface of illustrating a tree table as taught by Benhase et al. to the soft limit, hard limit, and predefined grace period of Byrnes et al. as modified by Kuchinsky et al. so to position the row, columns and cells of the table in ways that accentuates similarities and correlations within the table (see e.g., Para. [0144]).

As to dependent claim 25, claim 25 reflects the computer readable medium comprising the computer readable instructions for performing the method steps of claim 9, and is rejected along the same rationale.

As to dependent claim 34, claim 34 reflects the apparatus comprising the computer readable instructions for performing the method steps of claim 9, and is rejected along the same rationale.

It is noted that any citation to specific pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re *Heck*, 699 F.2d 1331, 1332-33,216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re *Lemelson*, 397 F.2d 1006,1009, 158 USPQ 275, 277 (CCPA 1968)).

Response to Arguments

Applicant's arguments filed 05/29/20086 have been fully considered but they are not persuasive. Applicant’s arguments revolve around the added limitations and do not include any other issues. Therefore, the examiners response is based in the new grounds of rejection as presented above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven B. Theriault whose telephone number is (571) 272-5867. The examiner can normally be reached on M, W, F 10:00AM - 8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Patent Examiner
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/Weilun Lo/

Supervisory Patent Examiner, Art Unit 2179